

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
24 January 2002 (24.01.2002)

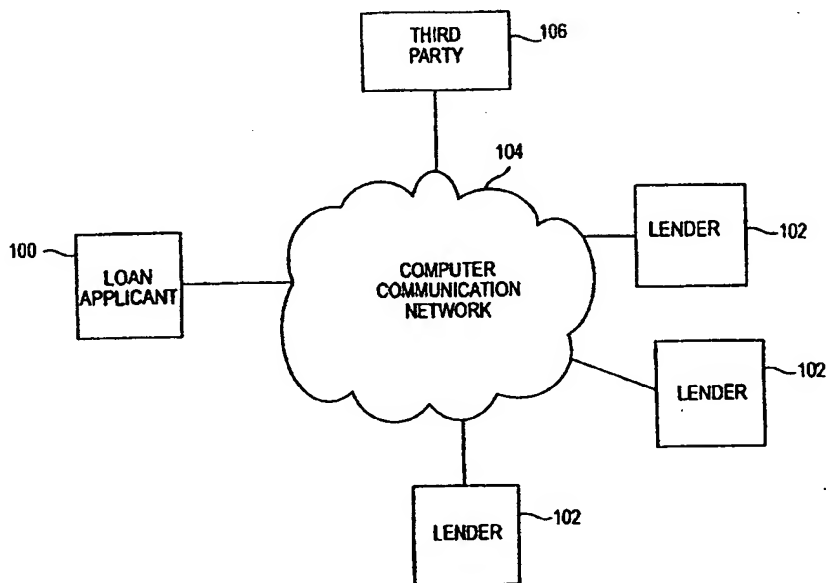
PCT

(10) International Publication Number  
**WO 02/06989 A1**

- (51) International Patent Classification: **G06F 17/00** (74) Agent: **KRAVETZ, Paul, I.**; Staas & Halsey LLP, Suite 500, 700 Eleventh Street, NW, Washington, DC 20001 (US).
- (21) International Application Number: **PCT/US01/22049**
- (22) International Filing Date: **13 July 2001 (13.07.2001)** (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.
- (25) Filing Language: **English**
- (26) Publication Language: **English**
- (30) Priority Data: **09/617,042** **14 July 2000 (14.07.2000)** **US** (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
- (71) Applicant: **AMERICAN MANAGEMENT SYSTEMS, INC.** [US/US]; 4050 Legato Road, Fairfax, VA 22033 (US).
- (72) Inventor: **HONARVAR, Laurence**; 957 Lynch Drive, Arnold, MD 21012 (US). **Published:**  
— *with international search report*

[Continued on next page]

(54) Title: **DIGITAL LOAN APPLICATION**



(57) Abstract: A loan application having a standardized, digital format which is electronically accepted by multiple lender (102). Various methods are provided in which the load application is paid for by a loan applicant (100), a lender (102) or a loan application provider (106).

WO 02/06989 A1

**WO 02/06989 A1**



---

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

## DIGITAL LOAN APPLICATION

### BACKGROUND OF THE INVENTION

#### Field of the Invention

The present invention relates to a digital loan application and, more particularly, to a digital loan application having a standardized, digital format which is electronically acceptable by multiple lenders.

#### Description of the Related Art

The use of digital loan applications is becoming common. For example, a loan applicant might transmit a digital loan application over the Internet to a lender which electronically accepts the loan application. However, conventionally, each lender requires its own format for the loan application. This causes a problem when a loan applicant submits a loan application to many different lenders. In such a case, the loan applicant would have to complete a different loan application and re-enter data for each lender.

Therefore, when a loan applicant intends to transmit a loan application to multiple lenders, the loan applicant might use a loan broker operating on the Internet. For example, the

loan applicant would complete a loan application over the Internet with the loan broker. The loan broker would then transmit the data in the loan application to multiple lenders. Each lender would then manually re-enter the data into its own computer system. However, such re-entering of data is a very inefficient, time consuming and error prone process.

### SUMMARY OF THE INVENTION

Accordingly, it is an object of the present invention to improve a loan application process where loan applications are transmitted to multiple lenders, especially where such transmission occurs over the Internet.

Objects of the present invention are achieved by providing a loan application in a standardized, digital format which is electronically accepted by multiple lenders.

Objects of the present invention are also achieved by providing a method which includes (a) purchasing software by a loan applicant for creating a loan application in a standardized, digital format electronically acceptable by multiple lenders; and (b) creating the loan application via the software by the loan applicant.

Objects of the present invention are further achieved by providing a method which includes (a) providing software by a software provider for creating a loan application in a standardized, digital format electronically acceptable by multiple lenders; (b) creating a loan application by a loan applicant via the software; (c) transmitting the created loan application by the loan applicant through a computer communication network to a respective lender of the multiple lenders for electronic processing by the lender; and (d) providing payment by the

respective lender to the software provider for the loan application.

In addition, objects of the present invention are achieved by providing a method which includes (a) providing a web site by a loan application provider, the web site including software for creating a loan application in a standardized digital format electronically acceptable by multiple lenders; (b) accessing the web site by a loan applicant; (c) creating a loan application on the web site via the software by the loan applicant; (d) transmitting the created loan application to a respective lender of the multiple lenders by the loan application provider; and (e) paying the loan application provider for the loan application by the loan applicant.

Further, objects of the present invention are achieved by providing a method including (a) providing a web site by a loan application provider, the web site including software for creating a loan application in a standardized digital format electronically acceptable by multiple lenders; (b) accessing the web site by a loan applicant; (c) creating a loan application on the web site via the software by the loan applicant; (d) transmitting the created loan application to a respective lender of the multiple lenders by the loan application provider; and (e) paying the loan application provider for the loan application by the respective lender.

Additional objects and advantages of the invention will be set forth in part in the description which follows, and, in part, will be obvious from the description, or may be learned by practice of the invention.

### BRIEF DESCRIPTION OF THE DRAWINGS

These and other objects and advantages of the invention will become apparent and more readily appreciated from the following description of the preferred embodiments, taken in conjunction with the accompanying drawings of which:

FIG. 1 is a diagram illustrating a loan application, according to an embodiment of the present invention.

FIG. 2 is a diagram illustrating a loan application process, according to an embodiment of the present invention.

FIG. 3 is a diagram illustrating a loan application process, according to an embodiment of the present invention.

FIG. 4 is a diagram illustrating a loan application process, according to an additional embodiment of the present invention.

FIG. 5 is a diagram illustrating a loan application process, according to a further embodiment of the present invention.

FIG. 6 is a diagram illustrating a network architecture, according to an embodiment of the present invention.

### DESCRIPTION OF THE PREFERRED EMBODIMENTS

Reference will now be made in detail to the present preferred embodiments of the present invention, examples of which are illustrated in the accompanying drawings, wherein like reference numerals refer to like elements throughout.

FIG. 1 is a diagram illustrating a loan application, according to an embodiment of the

present invention. Referring now to FIG. 1, a loan application 10 is in a standardized, digital format which is electronically accepted by multiple lenders. Here, the term "standardized" indicates that loan application 10 is in a format which is agreed to by multiple different lenders so that these lenders can electronically accept loan application 10. Preferably, the entire loan industry, or sectors of the loan industry, agree to the same standard.

There are many possible standardized, digital formats which can be used, and the present invention is not limited to any specific format. As an example, in FIG. 1, loan application 10 includes a plurality of fields 12, which include Field 1 through Field N. As an example, Field 1 might be for entering a name of a loan applicant, Field 2 might be for entering a street address of the loan applicant, Field 3 might be for entering a state of the loan applicant, field 4 might be for entering a zip code of the loan applicant. Various fields might be used, for example, to indicate a social security number of the loan applicant, the employer of the loan applicant, the salary of the loan applicant, and a requested loan amount. The specific fields, the number of fields, the length of the fields would all be maintained in a standardized format accepted by multiple lenders. Of course, the present invention is not limited to any specific fields, or any specific number of fields.

Preferably, the transmission protocol for transmitting loan application 10 would also use a standardized, digital transmission protocol acceptable by the multiple lenders. As a result, loan application 10 can easily be transmitted to, and electronically processed by, different lenders.

Typically, loan application 10 would include a digital signature 14 of the loan applicant,

to verify the identify of the loan applicant. In some embodiments of the present invention, loan application 10 might allow for electronic documents (not illustrated) to be attached to loan application 10, similar to providing digital signature 14. Such electronic documents might include, for example, a credit report of the loan applicant.

The completed loan application 10 would typically be encrypted before being transmitted to lenders. There are many different encryption technologies that can be used for this purpose.

FIG. 2 is a diagram illustrating a loan application process, according to an embodiment of the present invention. Referring now to FIG. 2, in operation 20, a software provider (not illustrated) provides software for creating loan application 10. As indicated above, loan application 10 is in a standardized, digital format electronically acceptable my multiple lenders (not illustrated).

From operation 20, the process moves to operation 22, where a loan applicant (not illustrated) creates loan application 10 via the software provided by the software provider.

From operation 22, the process moves to operation 24, where the loan applicant transmits the created loan application 10 through a computer communication network (not illustrated) to at least one lender which electronically accepts loan application 10. Here, loan application 10 might be transmitted to only one lender, or to multiple lenders.

From operation 24, the process moves to operation 26, where lenders that received loan application 10 provide payment to the software provider for loan application 10. Therefore, in this example, lenders which receive loan application 10 provide payment to the software



provider for loan application 10, to thereby compensate the software provider for the creation of loan application 10.

From operation 26, the process moves to operation 27, where the lenders electronically process loan application 10 to determine whether a loan should be made to the loan applicant.

After the lenders process loan application 10 in operation 27, each lender would typically provide a response indicating a result of the processing. For example, the response would typically indicate whether a loan was approved or denied. The response might provide several different types of information, and the present invention is not limited to any specific information provided in the response.

There are many different way in which responses from lenders can be provided to the loan applicant.

For example, in operation 28, lenders transmit responses directly to the loan applicant through a computer communications network (not illustrated). Such a response might be, for example, an email or page.

By contrast, in operation 30, lenders transmit responses to the loan applicant via a third party through a computer communications network. The third party would typically be a trusted third party which electronically verifies the identities of the loan applicant and possibly the lenders. The third party might acquire electronic verification documents via third party sources to certify that the information in loan application 10 is accurate. Such electronic verification documents might include, for example, a credit report and/or Internal Revenue Service (IRS) information. Such electronic verification documents could typically be made

attachable to loan application 10. The third party may possibly perform some other services relating to processing of loan application 10 and/or the responses. Typically, the travel path of the response from each lender to the third party, and from the third party to the loan applicant, would be via a computer communication network.

As an additional approach for lenders to provide responses, in operation 32, lenders provide responses on web sites (not illustrated). From operation 32, the process moves to operation 34, where the loan applicant electronically accesses the web sites to obtain the responses. Here, each lender might provide a response on a respective web site associated with that lender, so that responses by different lenders are provided on different web sites. Alternatively, all the lenders might post a response on the same web site, so that the loan applicant can easily access the responses.

In FIG. 2, operation 26 is shown between operations 24 and 27. However, the present invention is not limited to this order. For example, operation 26 might occur between operations 20 and 22, between operations 22 and 24, or before operation 20.

FIG. 3 is a diagram illustrating a loan application process, according to an additional embodiment of the present invention. FIG. 3 is the same as FIG. 2, except that operation 26 has been replaced with operation 35. In operation 35, the loan applicant pays the software provider for loan application 10. Thus, in FIG. 2, the lenders pay the software provider for loan application 10, whereas in FIG. 3, the loan applicant pays the software provider for loan application 10.

In FIG. 3, operation 35 is shown between operations 24 and 27. However, the present

invention is not limited to this order. For example, operation 35 might occur between operations 20 and 22, between operations 22 and 24, or before operation 20.

FIG. 4 is a diagram illustrating a loan application process, according to an additional embodiment of the present invention. Referring now to FIG. 4, in operation 36, a loan applicant accesses a web site (not illustrated) which includes software (not illustrated) for creating loan application 10. The web site would typically be provided by, or associated with, a loan application provider.

From operation 36, the process moves to operation 38, where the loan applicant creates loan application 10 on the web site via the software included on the web site.

From operation 38, the process moves to operation 40, where the loan application provider transmits the created loan application 10 to at least one lender through a computer communications network.

From operation 38, the process moves to operation 42, where the loan applicant pays the loan application provider for loan application 10.

From operation 42, the process moves to operation 43, where lenders that received loan application 10 electronically process loan application 10.

After the lenders process loan application 10 in operation 43, each lender would typically provide a response indicating a result of the processing. The different ways in which responses can be provided are the same as that discussed above for FIG. 2.

In FIG. 4, operation 42 is shown between operations 40 and 43. However, the present invention is not limited to this order. For example, operation 42 might occur some time after

operation 43.

FIG. 5 is a diagram illustrating a loan application process, according to a further embodiment of the present invention. FIG. 5 is the same as FIG. 4, except that operation 42 has been replaced with operation 50. In operation 50, the lenders pay the loan application provider for loan application 10. Thus, in FIG. 4, the loan applicant pays the loan application provider for loan application 10, whereas in FIG. 5, the lenders pay the loan application provider for loan application 10.

In FIG. 5, operation 50 is shown between operations 40 and 43. However, the present invention is not limited to this order. For example, operation 50 might occur some time after operation 43.

In the above embodiments of the present invention, the lenders "electronically process" loan application 10 (see, for example, operation 27 in FIGS. 2 and 3, operation 43 in FIGS. 4 and 5). Here, by "electronically processing," the lenders use computers to automatically read information from loan application 10 and then act on that information in accordance with the standardized format of loan application 10. Processing is performed by the lenders to determine whether or not a loan should be made to the loan applicant based on information in loan application 10.

In the above embodiments of the present invention, the ability might typically be provided to positively identify the loan applicant. Such positive verification could be performed, for example, by a third party that might, for example, ask questions of the loan applicant. If the questions are answered correctly, the third party would verify the identity of

the loan applicant. Biometric systems might also be used to verify the identify of the loan applicant. Moreover, smart card technology might be used to verify the identity of the loan application. Of course, there are many different ways in which the identify of the loan applicant can be verified, and which can be used with the present invention.

In some embodiments of the present invention, loan application 10 might be allowed to capture subjective requirements that the loan applicant wants to include in loan application 10. For example, the loan application might want to include a statement that the loan applicant would like a loan at 7% for 15 years, that the loan applicant does not want a resulting loan to be sold by the lender, and/or that the loan applicant wants monthly statements instead of payment booklets. Loan application 10 might provide a space for such subjective requirements to be input.

FIG. 6 is a diagram illustrating a network architecture, according to an embodiment of the present invention. Referring now to FIG. 6, a loan applicant 100 is connected to a plurality of lenders 102 via a computer communication network 104 suitable for computer communication between parties connected thereto. Computer communication network 104 might be, for example, the Internet, a wide area network (WAN), a local area network (LAN), a wireless communication system, an optical communication system, or any combination of these.

A third party 106 could also be connected to computer communication network 104 for computer communications with lenders 102 and/or loan applicant 100.

Typically, element 100 shown in FIG. 6 would be a computer, personal digital assistant

(PDA), terminal, or other any other type of communication device which the loan applicant can use to access computer communication network 104. Each respective element 102 shown in FIG. 6 would typically be a web site, terminal, or electronic access point which the associated lender would use to access computer communications network 104. Similarly, element 106 shown in FIG. 6 would typically be a web site, terminal, or electronic access point which the third party would use to access computer communications network 104.

Thus, communications between loan applicant 100 and lenders 102, between loan applicant 100 and third party 106, and between third party 106 and lenders 102 would occur via computer communication over computer communication network 104.

Of course, there are many different potential network architectures and computer communications networks which can be used to implement the present invention, and the present invention is not limited to any specific type of network architecture or computer communications network.

The above embodiments of the present invention provide for a standardized loan application to be used across multiple lenders, or, for example, across the entire financial services or loan industry. Such a standardized loan application directly supports electronic submission of loan applications. Typically, the loan application would provide an appropriate level of security through, for example, the use of digital signatures and encryption technology. Preferably, the loan application would use an extensible architecture.

Moreover, the above embodiments of the present invention provide a vehicle for which a loan applicant can complete a loan application with all of the loan applicant's associated data

in a standardized format accepted by multiple lenders. This allows the loan applicant to enter the data once, and to then transmit the application to multiple lenders. Preferably, the type of information input into the application is standardized. Moreover, responses from lenders could be standardized, to thereby standardize the entire process from submission of a loan application to receipt of a response by the loan applicant.

Although a few preferred embodiments of the present invention have been shown and described, it would be appreciated by those skilled in the art that changes may be made in these embodiments without departing from the principles and spirit of the invention, the scope of which is defined in the claims and their equivalents.

What is claimed is:

1. An apparatus comprising:  
a loan application in a standardized, digital format electronically accepted by multiple lenders.
2. An apparatus as in claim 1, wherein the loan application is encrypted.
3. An apparatus as in claim 1, wherein the loan application includes a digital signature to verify identify of a loan applicant completing the loan application.
4. A method comprising:  
purchasing software by a loan applicant for creating a loan application in a standardized, digital format electronically acceptable by multiple lenders; and  
creating the loan application via the software by the loan applicant.
5. A method as in claim 4, further comprising:  
transmitting the created loan application by the loan applicant through a computer communication network to at least one lender of the multiple lenders for electronic processing by said at least one lender.



6. A method as in claim 5, further comprising:  
electronically processing the transmitted loan application by said at least one lender.
7. A method as in claim 5, further comprising:  
encrypting the loan application by the software before the loan application is transmitted.
8. A method as in claim 5, further comprising:  
transmitting a response to the loan application from a respective lender of said at least one lender to the loan applicant through a computer communication network.
9. A method as in claim 5, further comprising:  
transmitting a response to the loan application from a respective lender of said at least one lender via a third party to the loan applicant through a computer communication network.
10. A method as in claim 5, further comprising:  
providing a response to the loan application by a respective lender of said at least one lender on a web site; and  
electronically accessing the web site by the loan applicant via a computer communication network to obtain the response.

11. A method as in claim 4, further comprising:  
adding a digital signature to the loan application to verify identify of the loan applicant.
12. A method comprising:  
providing software by a software provider for creating a loan application in a  
standardized, digital format electronically acceptable my multiple lenders;  
creating a loan application by a loan applicant via the software;  
transmitting the created loan application by the loan applicant through a computer  
communication network to a respective lender of the multiple lenders for electronic processing  
by the lender; and  
providing payment by the respective lender to the software provider for the loan  
application.
13. A method as in claim 12, further comprising:  
encrypting the loan application by the software before the loan application is  
transmitted.
14. A method as in claim 12, further comprising:  
transmitting a response to the loan application from the respective lender to the loan  
applicant through a computer communication network.

15. A method as in claim 12, further comprising:  
transmitting a response to the loan application from the respective lender via a third party to the loan applicant through a computer communication network.
16. A method as in claim 12, further comprising:  
providing a response to the loan application by the respective lender on a web site; and  
electronically accessing the web site by the loan applicant via a computer communication network to obtain the response.
17. A method as in claim 12, further comprising:  
adding a digital signature to the loan application to verify identify of the loan applicant.
18. A method comprising:  
providing a web site by a loan application provider, the web site including software for creating a loan application in a standardized digital format electronically acceptable by multiple lenders;  
accessing the web site by a loan applicant;  
creating a loan application on the web site via the software by the loan applicant;  
transmitting the created loan application to a respective lender of the multiple lenders by the loan application provider; and  
paying the loan application provider for the loan application by the loan applicant.

19. A method as in claim 18, further comprising:  
encrypting the loan application by the loan application provider before the loan application is transmitted.
20. A method as in claim 18, further comprising:  
transmitting a response to the loan application from the respective lender to the loan applicant through a computer communication network.
21. A method as in claim 18, further comprising:  
transmitting a response to the loan application from the respective lender to the loan applicant via the loan application provider through a computer communication network.
22. A method as in claim 18, further comprising:  
providing a response to the loan application by the respective lender on a web site; and  
electronically accessing the web site by the loan applicant via a computer communication network to obtain the response.
23. A method as in claim 18, further comprising:  
adding a digital signature to the loan application to verify identify of the loan applicant.

24. A method comprising:

providing a web site by a loan application provider, the web site including software for creating a loan application in a standardized digital format electronically acceptable by multiple lenders;

accessing the web site by a loan applicant;

creating a loan application on the web site via the software by the loan applicant;

transmitting the created loan application to a respective lender of the multiple lenders by the loan application provider; and

paying the loan application provider for the loan application by the respective lender.

25. A method as in claim 24, further comprising:

encrypting the loan application by the loan application provider before the loan application is transmitted.

26. A method as in claim 24, further comprising:

transmitting a response to the loan application from the respective lender to the loan applicant through a computer communication network.

27. A method as in claim 24, further comprising:

transmitting a response to the loan application from the respective lender to the loan applicant via the loan application provider through a computer communication network.

28. A method as in claim 24, further comprising:  
providing a response to the loan application by the respective lender on a web site; and  
electronically accessing the web site by the loan applicant via a computer  
communication network to obtain the response.
29. A method as in claim 24, further comprising:  
adding a digital signature to the loan application to verify identify of the loan applicant.

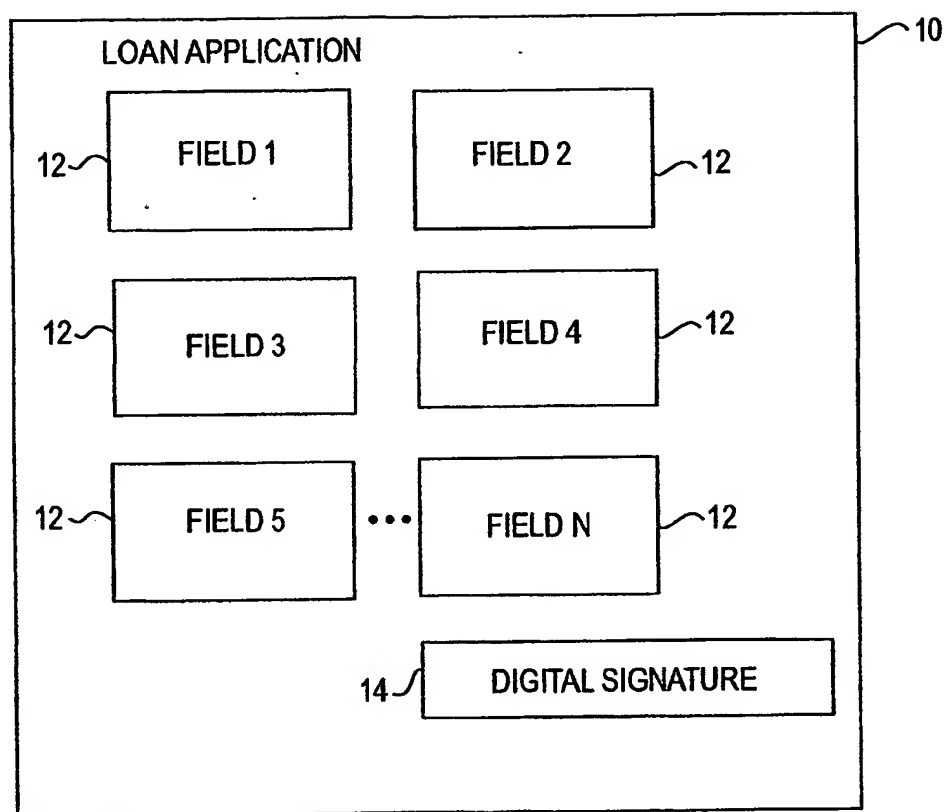
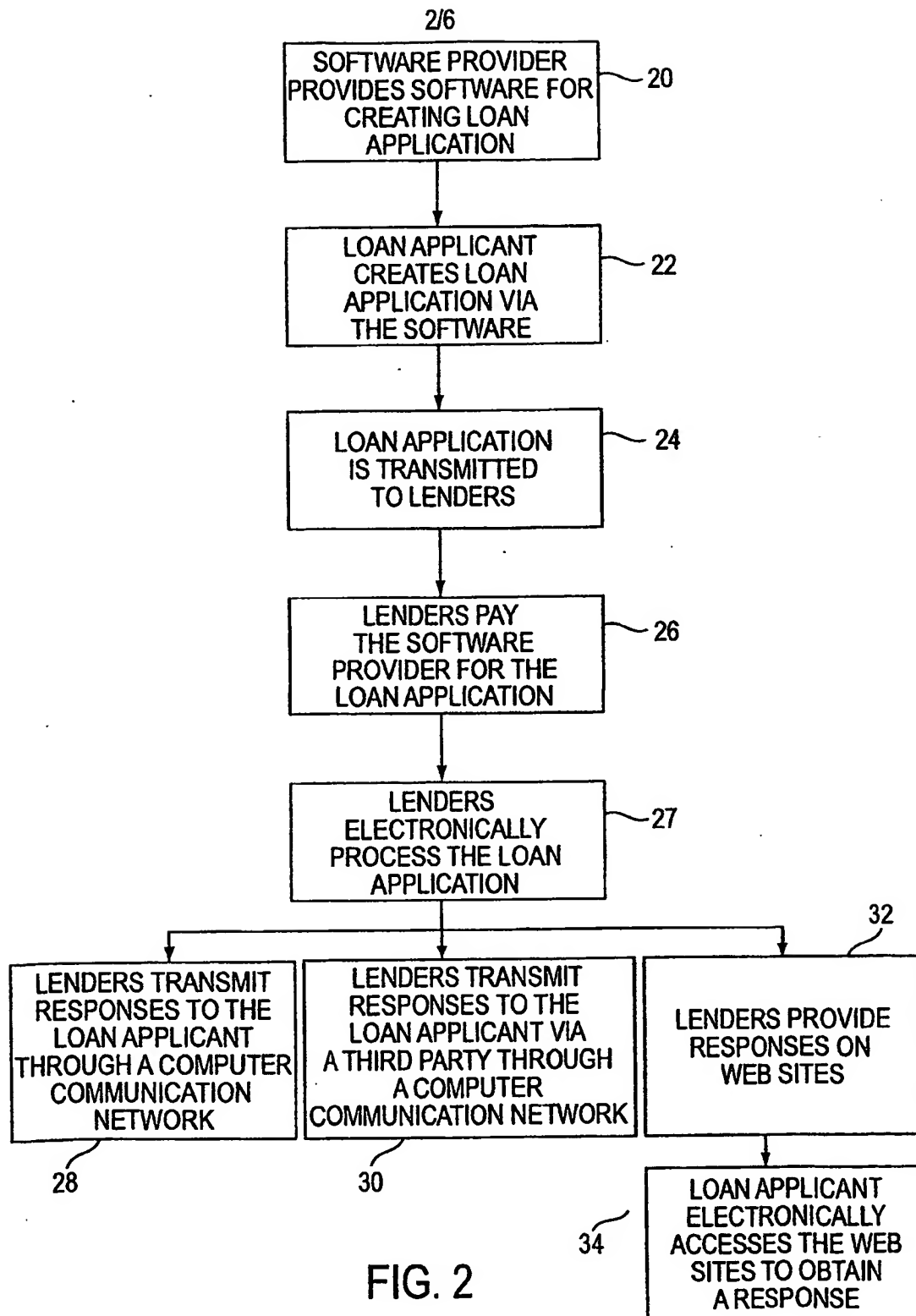
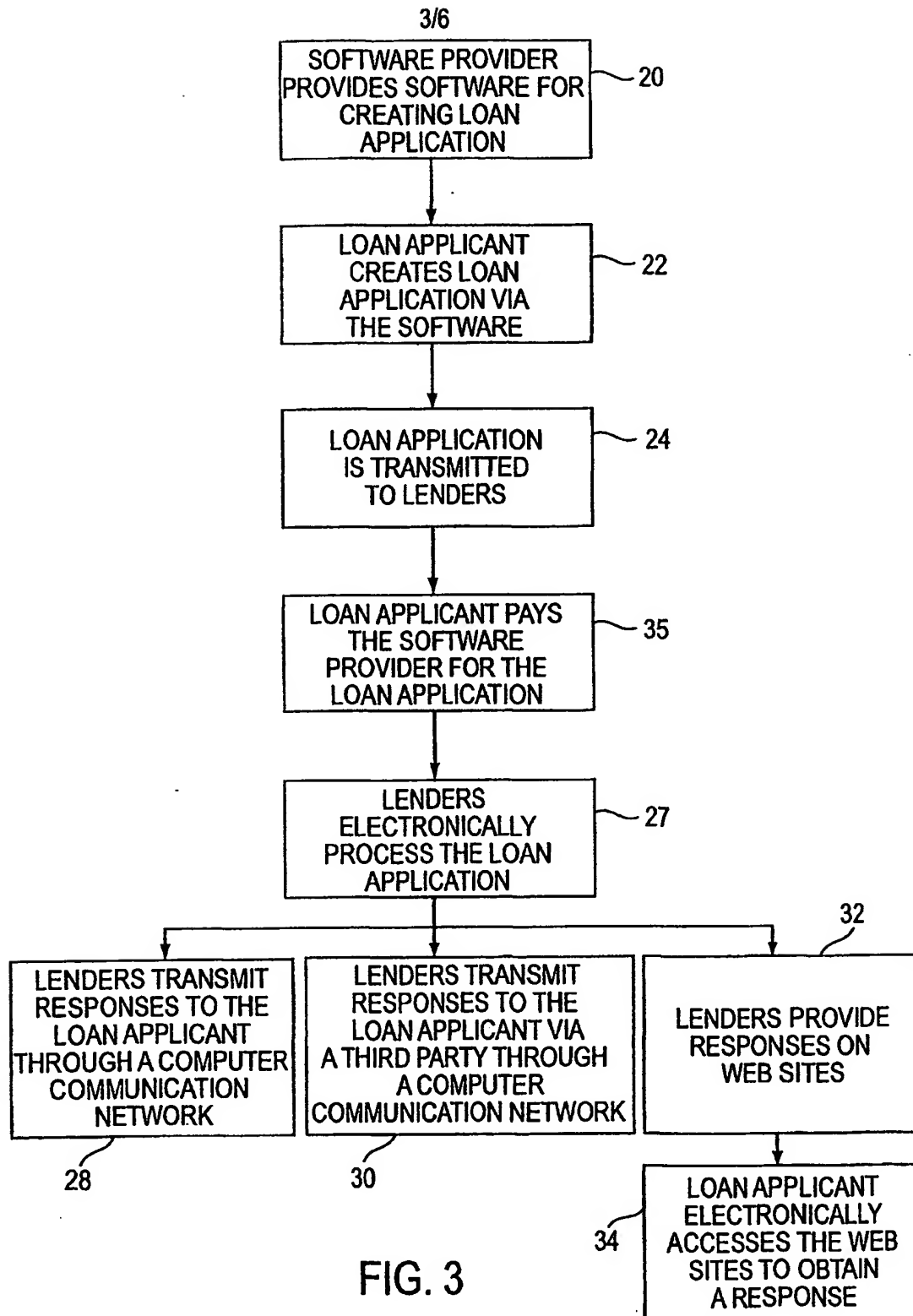


FIG. 1







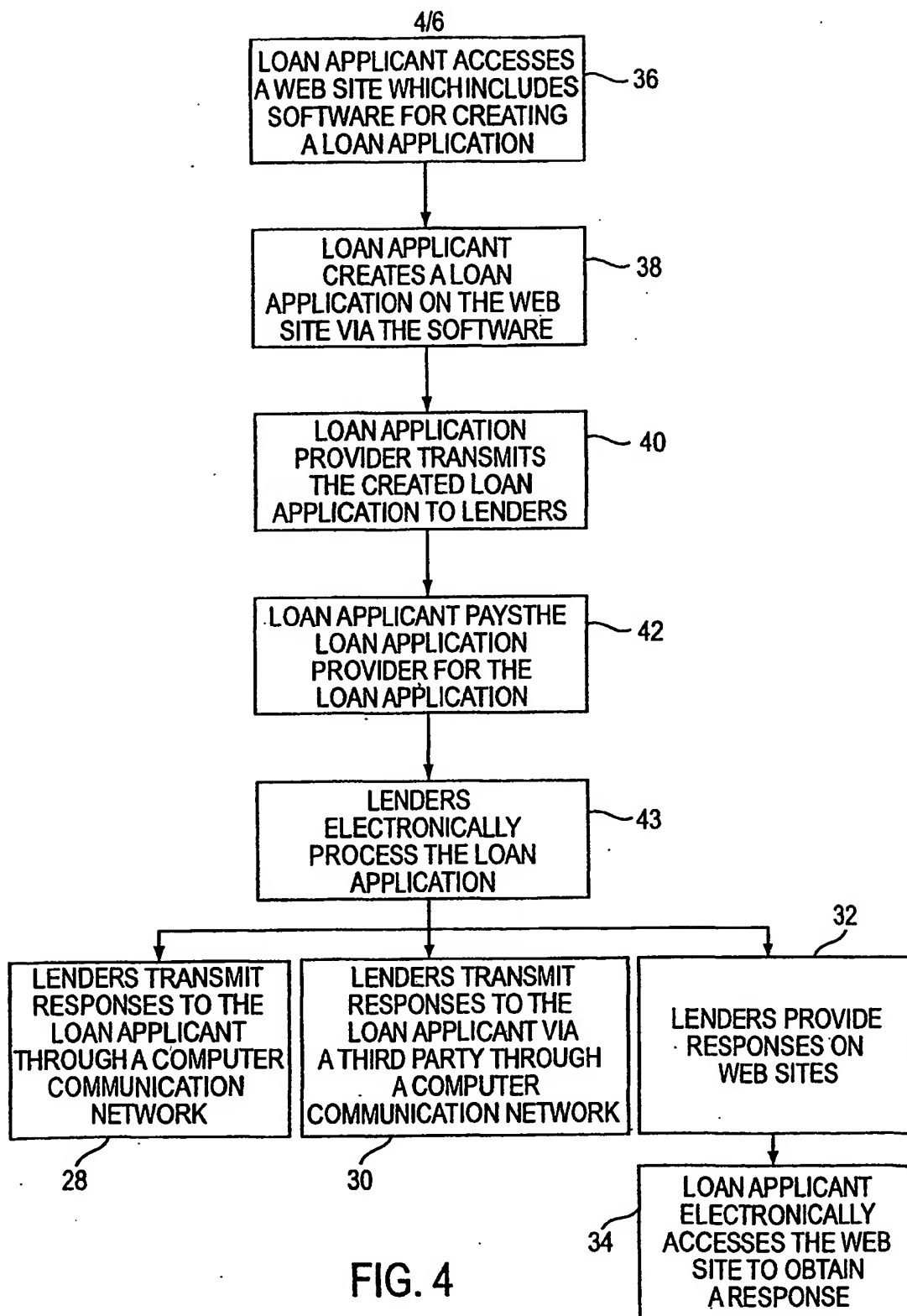


FIG. 4

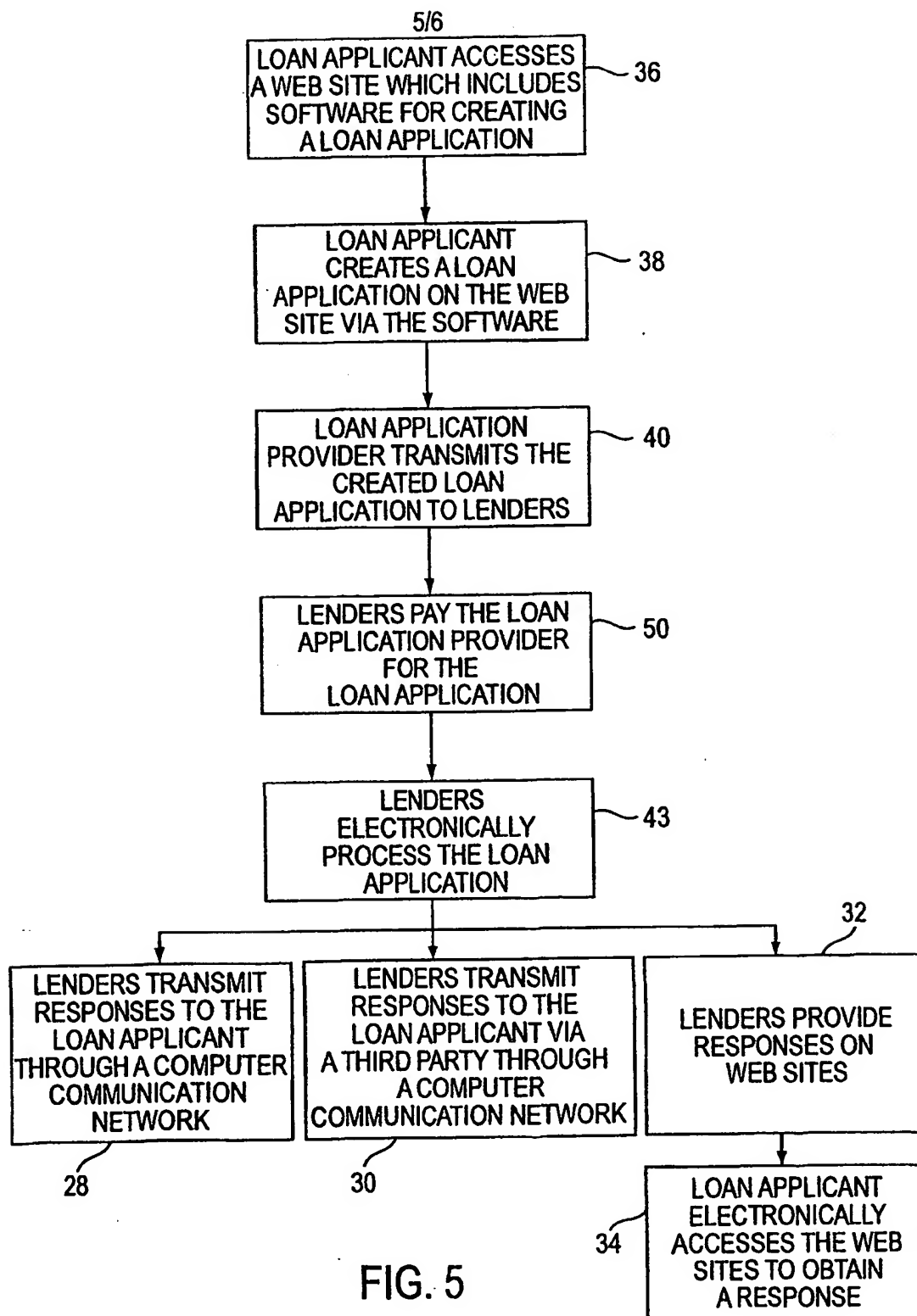


FIG. 5

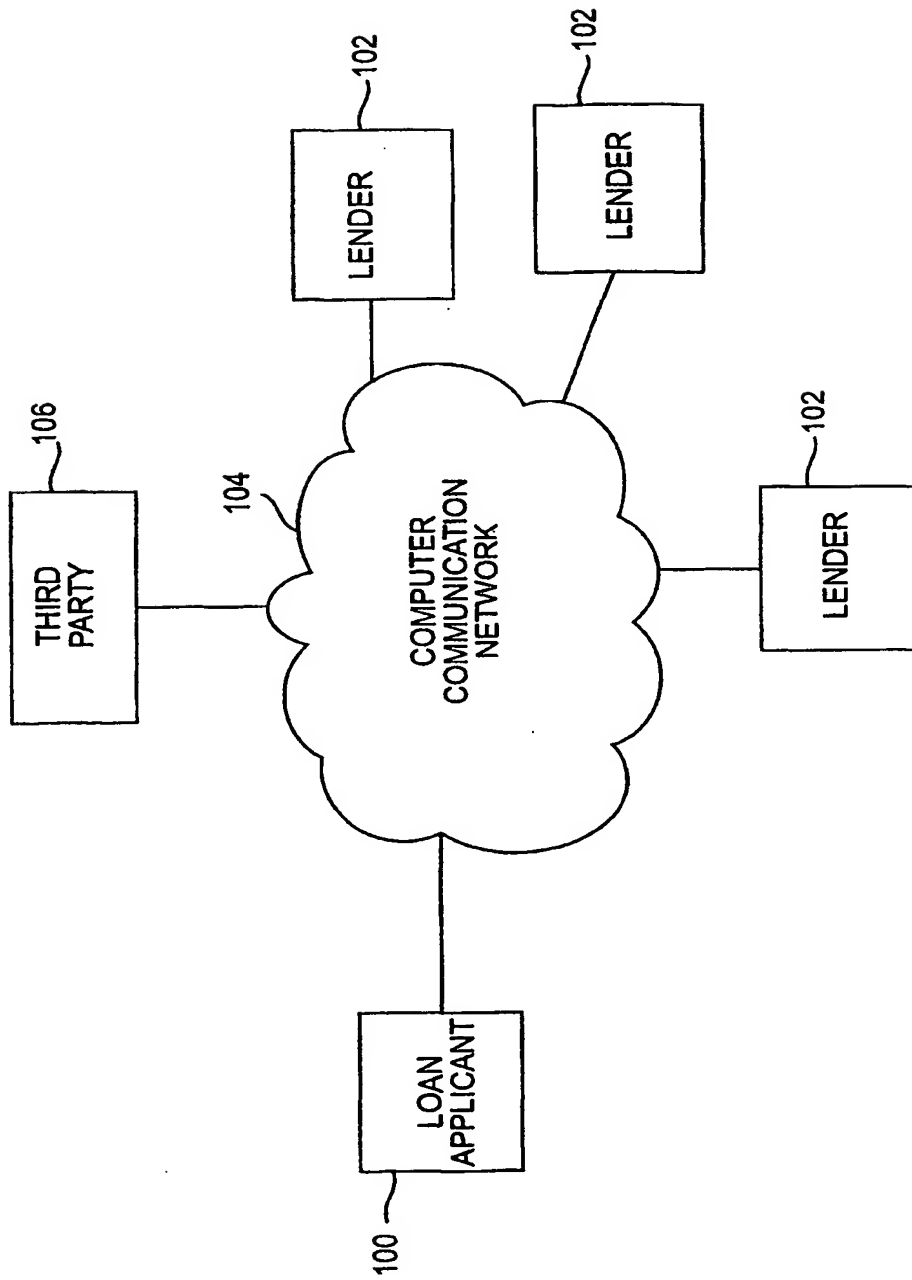


FIG. 6

## INTERNATIONAL SEARCH REPORT

 International application No.  
PCT/US01/22049

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G06F 17/00

US CL : 705/38

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 705/38

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Nineteen business and industry databases and patents databases (EPO, WIPO, JAPIO, JPO, and USPTO)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,995,947 A (FRASER et al) 30 November 1999, abstract, col. 1, line 22-col. 2, line 56, col. 3, line 1-col. 4, line 4, col. 6, lines 13-41, col. 7, lines 24-53, col. 9, lines 12-45	1-29
Y	US 6,088,686 A (WALKER et al) 11 July 2000, col. 5, line 65-col. 8, line 43, col. 8, line 60-col. 11, line 7, col. 12, line 35-col. 15, line 60, col. col. 16, line 4-col. 17, line 47.	1-29
Y	US 6,029,149 A (Dykstra et al) 22 February 2000, col. 3, line 30-col. 5, line 66, col. 6, line 4-col. 8, line 54.	1-29

☐ Further documents are listed in the continuation of Box C.
 ☐ See patent family annex.

* Special categories of cited documents:	*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
*A* document defining the general state of the art which is not considered to be of particular relevance	*X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
*E* earlier document published on or after the international filing date	*Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
*L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	*A* document member of the same patent family
*O* document referring to an oral disclosure, use, exhibition or other means	
*P* document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 24 AUGUST 2001	Date of mailing of the international search report 19 SEP 2001
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703) 305-3230	Authorized officer VICENT MILLIN <i>James R. Matthews</i> Telephone No. (703) 703 1056